QGIS PLUGIN - USER GUIDE

User Guide for the Universal Map2web Export Your QGIS Layers to Interactive Web Maps with Leaflet

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Demo video: https://youtu.be/V67q3jCYKow

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Document created for Universal Map2Web QGIS Plugin

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1. Introduction

Universal Map2web is a QGIS plugin that exports your vector layers to interactive web maps using the Leaflet.js library. The plugin stands out for its ability to faithfully preserve the symbology and styles of your QGIS project, including colors, widths, opacities, and line styles. It supports all QGIS renderer types: Single, Categorized, Graduated, and Rule-based.

The goal is to get the best of both worlds: prepare your cartography in QGIS, then generate a ready-to-use web map with advanced built-in features.

2. Video Tutorial

For a quick start, a video tutorial is available at:
https://youtu.be/V67q3jCYKow

3. Key Features

Universal Map2web offers a comprehensive set of features for creating professional web maps:

#	Feature	Description
1	**QGIS symbology preservation**	Colors, widths, opacities, line styles
2	**Support for all renderers**	Single, Categorized, Graduated, Rule-based
3	**Automatic QGIS labeling**	Preserves QGIS label settings
4	**Customizable popups**	Per layer, with your choice of fields
5	**Advanced attribute filtering**	Display only the data you want
6	**Colored point clustering**	Intelligent grouping of points
7	**Integrated tools**	Measure, Search, Geolocation, Fullscreen, Scale bar, MiniMap, Print, Mouse Position
8	**Interface themes**	Light, Dark, Professional, Colorful
9	**Customizable logo and header color**	Match your brand identity
10	**Built-in local server**	Avoids CORS issues for optimal display
11	**Export formats**	PNG, PDF and CSV
12	**Multi-language support**	English and French supported

4. Requirements

- QGIS 3.40 to QGIS 4.99
- Modern web browser (Chrome, Firefox, Edge, Safari)
- Basic familiarity with QGIS symbology and layer management

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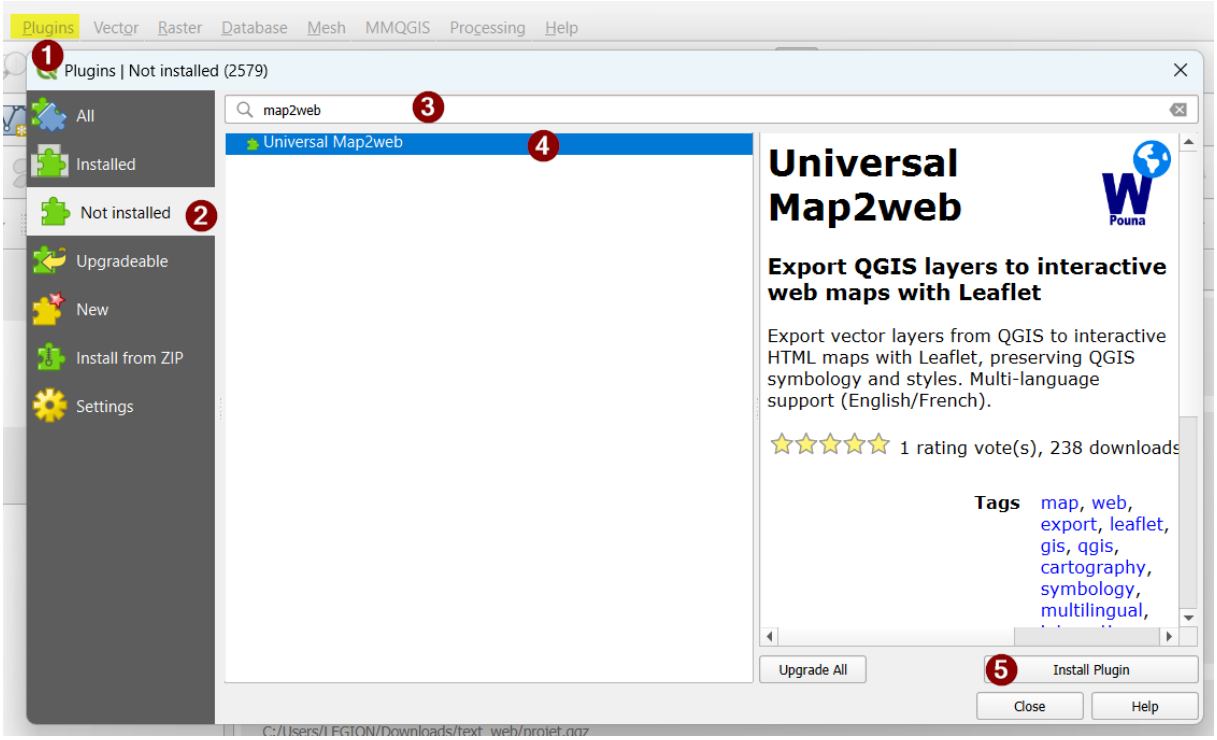
5. Installation

You have two methods to install the plugin:

5.1. Method 1: From the official QGIS repository (recommended)

1. Open **QGIS**
2. Go to **Plugins → Manage and Install Plugins...**
3. Search for **"Universal Map2web"**
4. Click **Install**



5.2. Method 2: From GitHub (manual installation)

1. Download the `universal_map2web` folder from the GitHub repository
2. Copy it to the QGIS plugins folder:
   - **Windows**: `C:\Users\YourName\AppData\Roaming\QGIS\QGISxxxx\profiles\default\python\plugins\`
   - **Linux**: `~/.local/share/QGIS/QGISXXXX/profiles/default/python/plugins/`
   - **Mac**: `~/.local/share/QGIS/QGIS3/profiles/default/python/plugins/`
3. Activate the plugin in QGIS via **Plugins → Manage and Install Plugins → Installed**.

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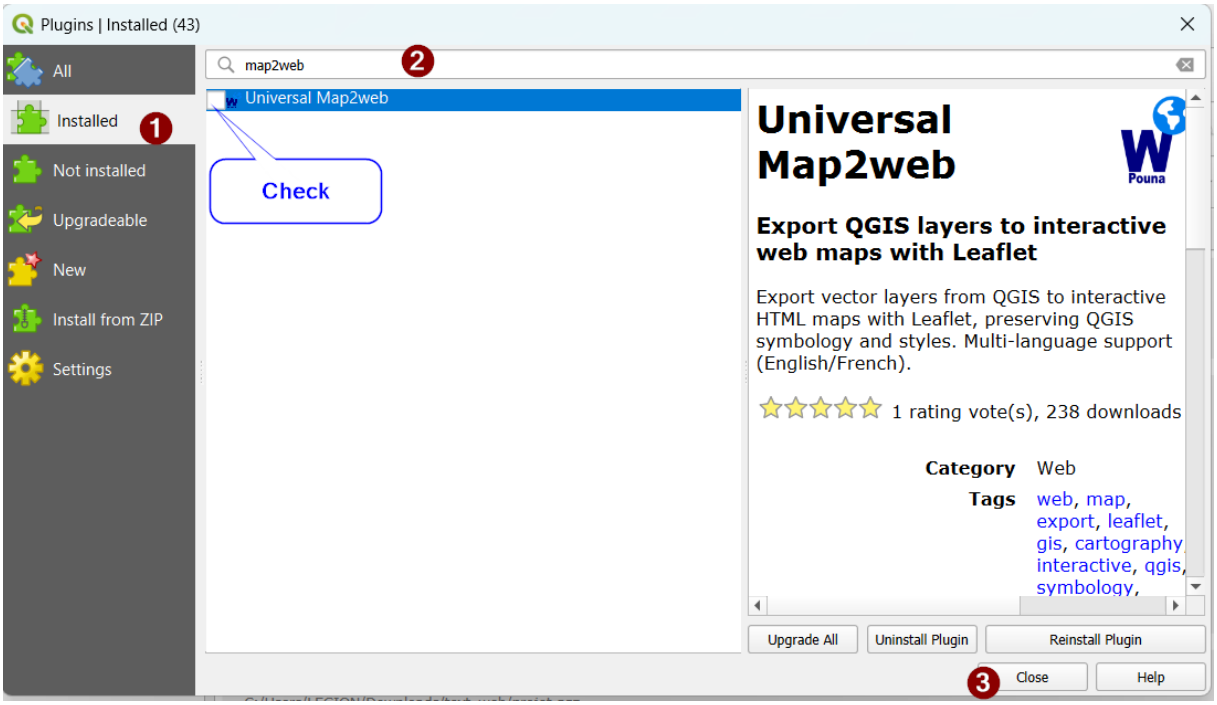
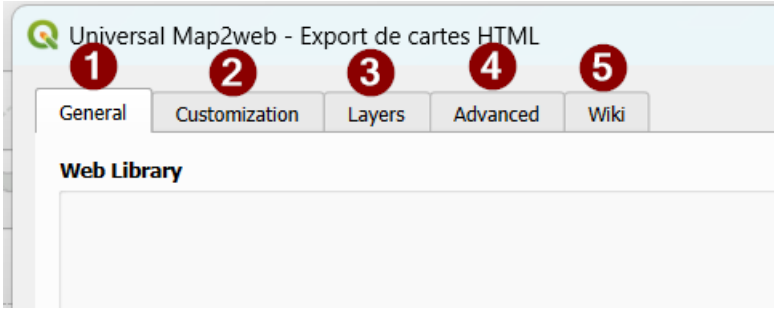


Figure 1 - QGIS Plugin Manager showing Universal Map2web installed and activated.

6. Interface Overview

The plugin interface is divided into **five main tabs**:



6.1. Tab 1: General

This tab contains the main export settings:

- **Web Library**: Select Leaflet as the mapping library
- **Basemap**: Choose from OpenStreetMap, Google Satellite, Google Hybrid, or a custom URL
- **Tools to integrate**: Select which interactive tools to include in your web map

6.2. Tab 2: Customization

This tab allows you to personalize the appearance of your web map:

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- **Map title**: Set a title for your map
- **Logo**: Upload a custom logo (PNG, JPG, JPEG, SVG)
- **Header color**: Choose a color for the header background
- **Interface theme**: Select from Light, Dark, Professional, or Colorful

6.3. Tab 3: Layers

This tab manages layer selection and popup configuration:

- **Layer selection**: Choose which layers to export
- **Popup configuration**: For each layer, select which fields appear in popups

6.4. Tab 4: Advanced

This tab contains optimization and export options:

- **Data optimization**: Simplify geometries, compress JSON data, round coordinates
- **Export options**: Export as ZIP file, open automatically in browser

6.5. Tab 5: Wiki

This tab displays helpful documentation and tips directly within the plugin interface. Content is available in both English and French, automatically selected based on your QGIS language settings.

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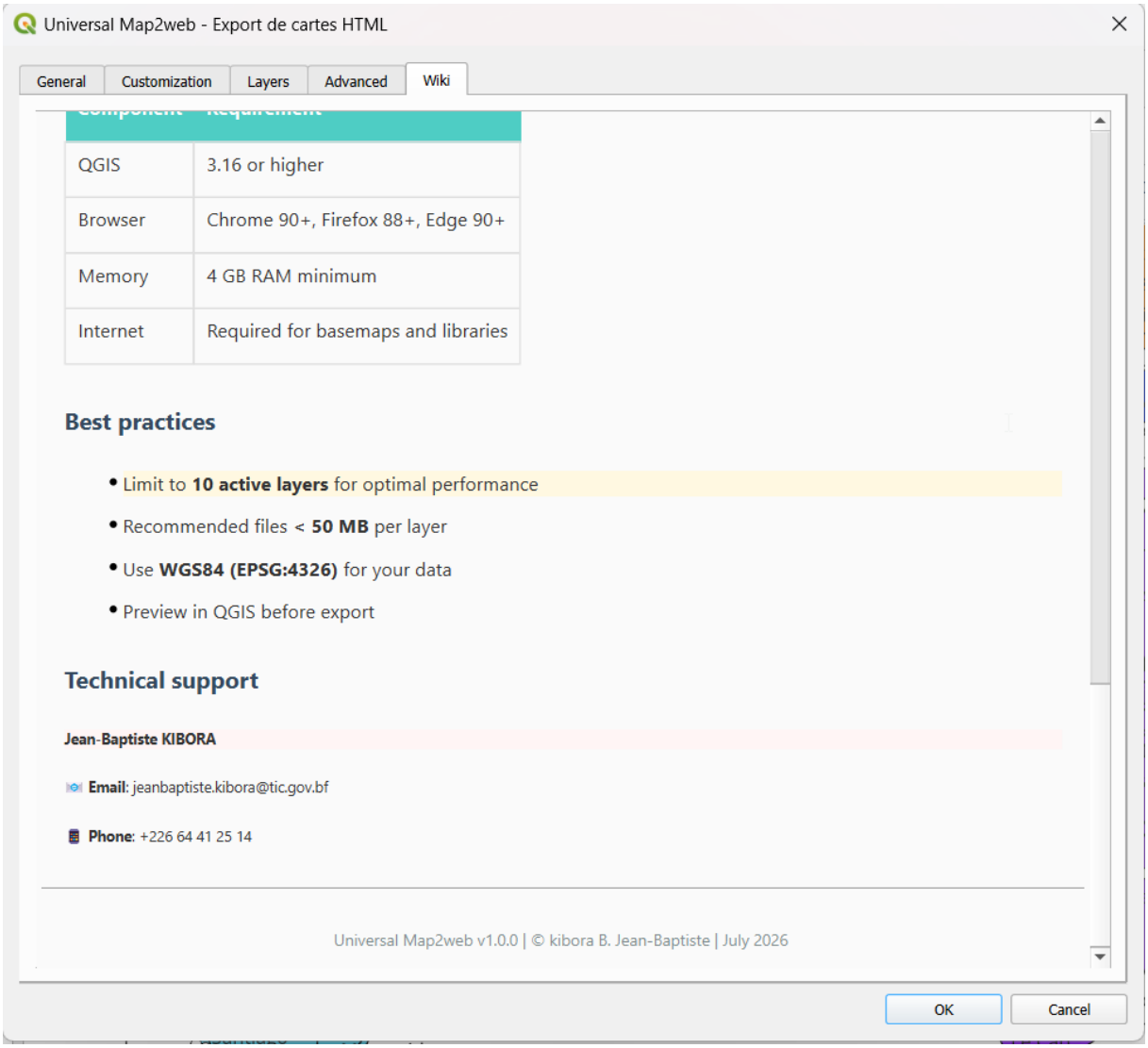

7. Basic Usage

Generating a web map is done in a few simple steps:

7.1. Step 1: Prepare Your QGIS Project

- Ensure your layers' symbology, labels, and styles are finalized
- Check that your project's projection is set correctly
- Verify that attribute tables contain the fields you want to display

7.2. Step 2: Launch the Plugin

Click the `Universal Map2web` icon in the toolbar or via **Plugins → Universal Map2web → Create web map**.

7.3. Step 3: Configure General Settings (Tab 1)

- **Select basemap**: Choose your preferred background map

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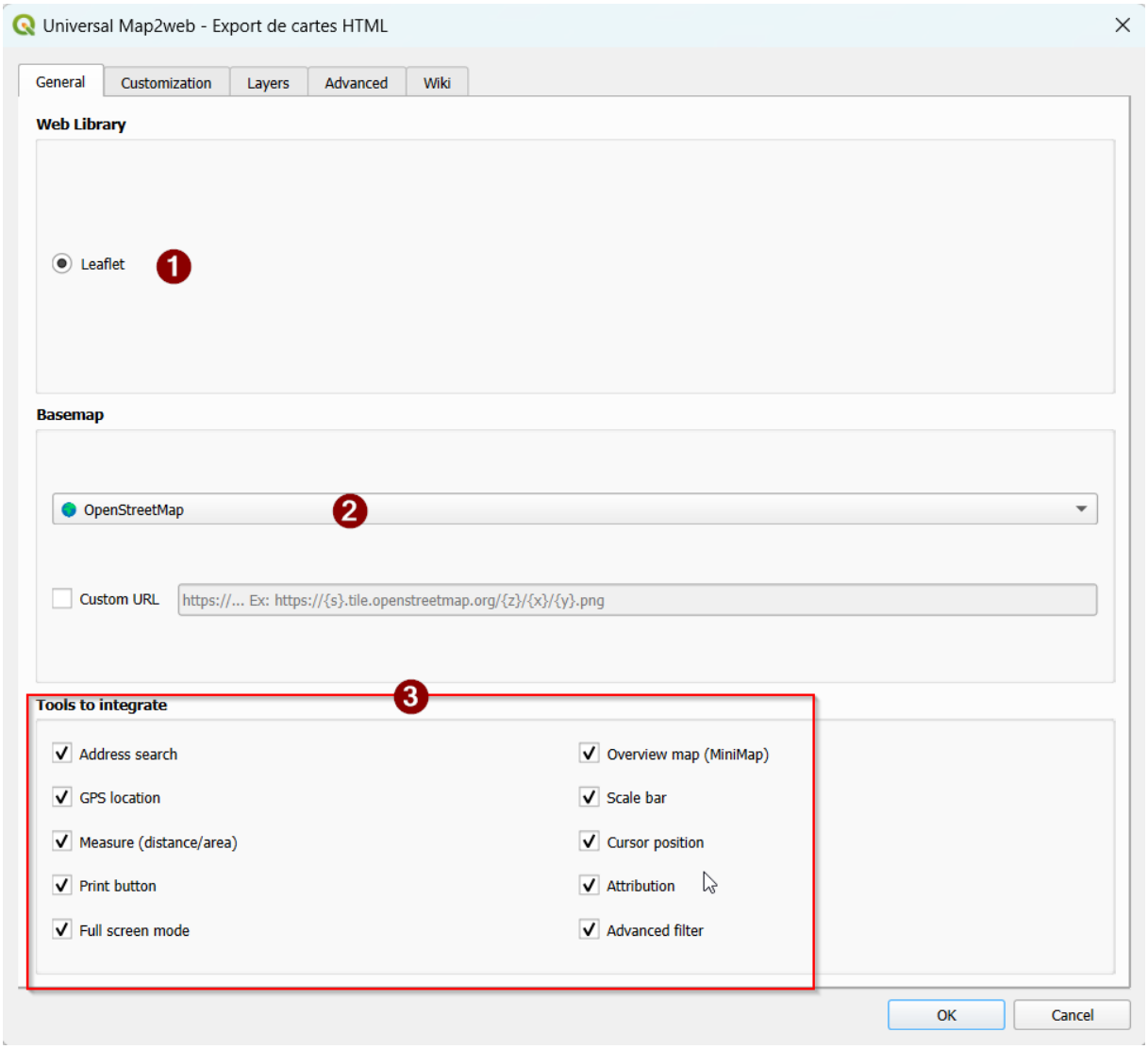
- **Enable tools**: Check the tools you want to include:
  - Address search
  - GPS location
  - Measure (distance/area)
  - Print button
  - Full screen mode
  - Overview map (MiniMap)
  - Scale bar
  - Cursor position (mouse coordinates)
  - Attribution
  - Advanced filter



7.4. Step 4: Customize Appearance (Tab 2)

- **Title**: Enter a descriptive title
- **Logo**: Click "Choose a logo" to upload your organization's logo
- **Header color**: Click "Choose a color" to select a custom color
- **Theme**: Select from Light, Dark, Professional, or Colorful

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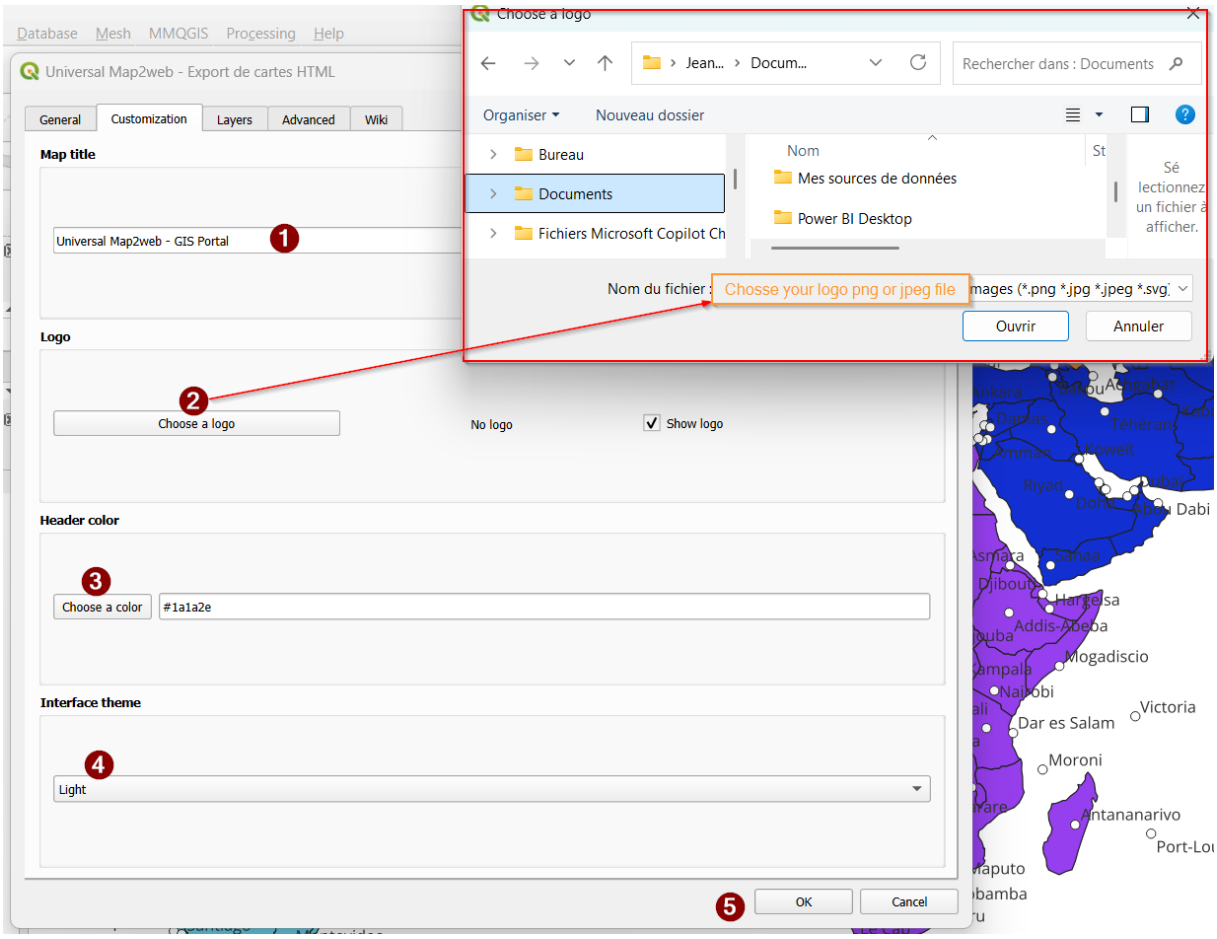

7.5. Step 5: Select Layers and Configure Popups (Tab 3)

- **Select layers**: Check the boxes for layers you want to export
- **Configure popups**: For each layer, check the fields you want to display in popups

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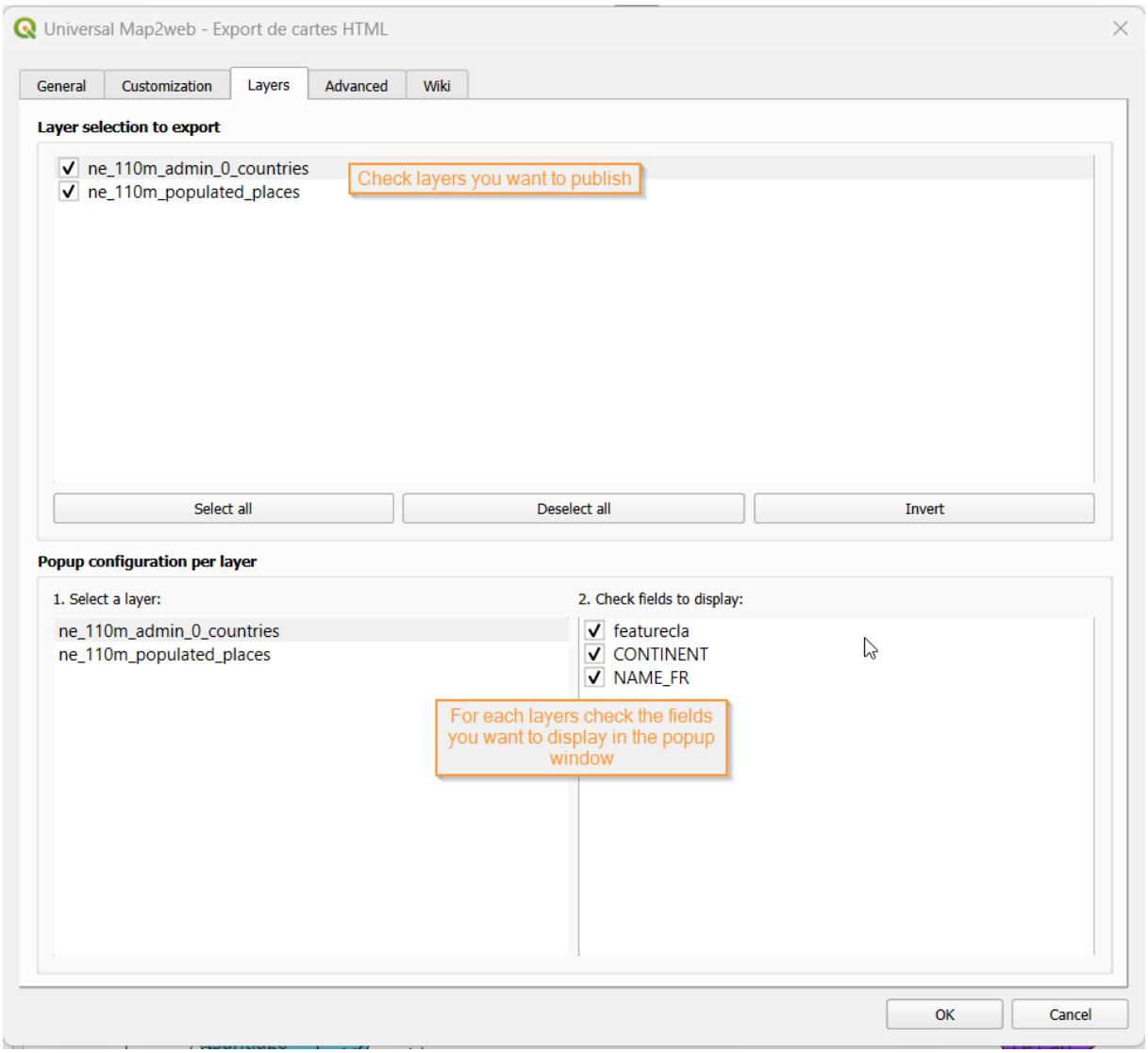

7.6. Step 6: Set Advanced Options (Tab 4)

- **Data optimization**: Enable options like geometry simplification or coordinate rounding if needed
- **Export options**: Choose to export as ZIP or open automatically in browser

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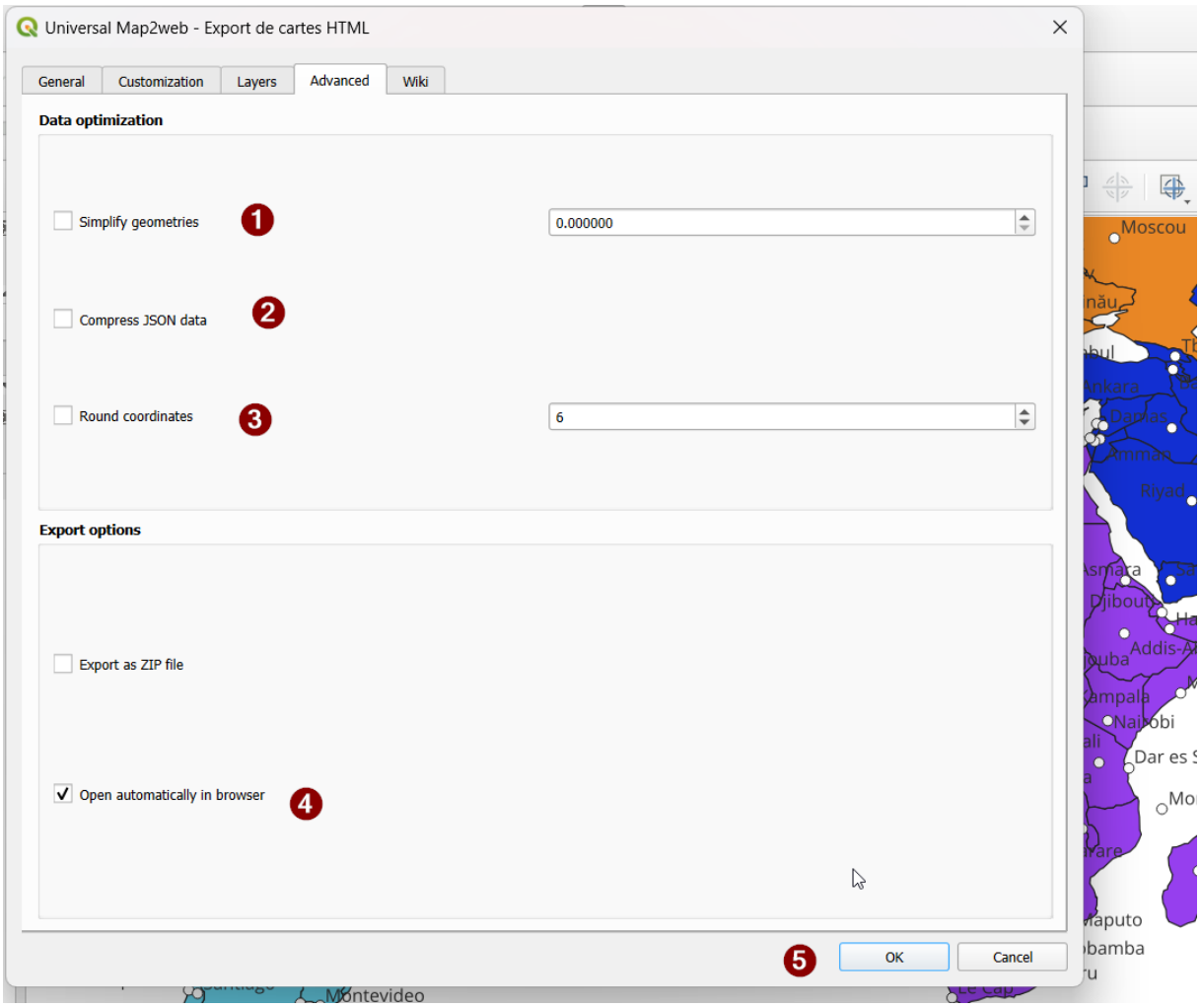

7.7. Step 7: Export

Click **OK** to start the export. The plugin will:

1. Generate all necessary files (HTML, CSS, JavaScript, data)
2. Start a local server (if enabled)
3. Open the map automatically in your web browser

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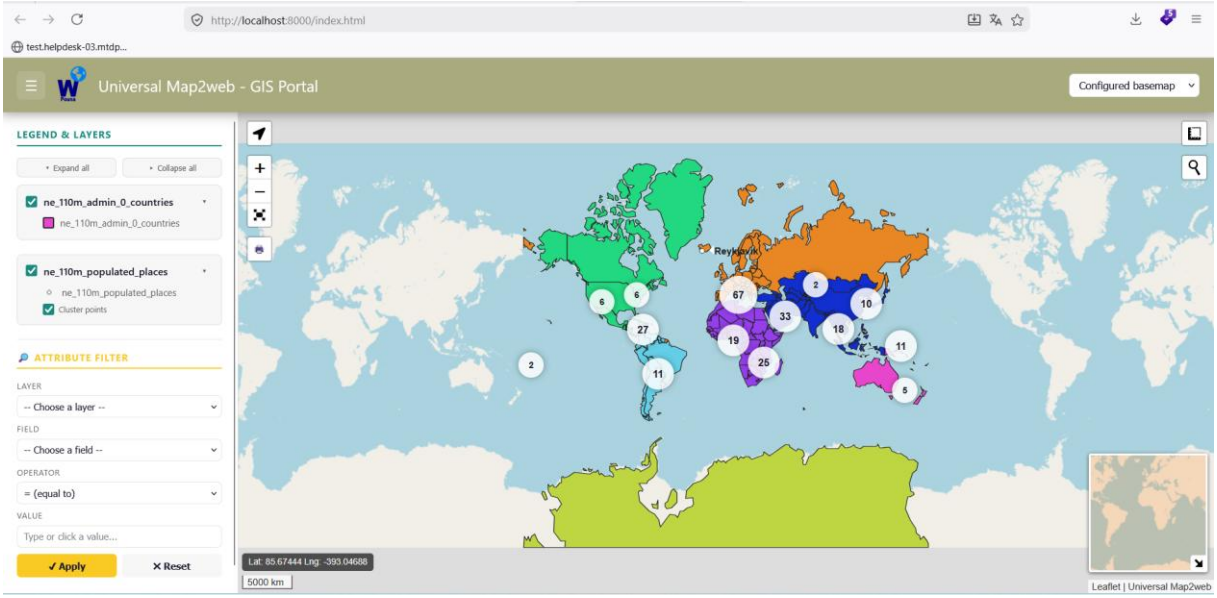

8. Detailed Tab Reference

8.1. General Tab

Element	Description	Options
Web Library	Mapping library to use	Leaflet (only option)
Basemap	Background map layer	OpenStreetMap, Google Satellite, Google Hybrid, Custom URL
Tools to integrate	Interactive tools	Address search, GPS location, Measure, Print, Fullscreen, MiniMap, Scale bar, Cursor position, Attribution, Advanced filter

8.2. Customization Tab

Element	Description	Options
Map title	Title displayed on the map	Text input
Logo	Organization logo	Upload PNG, JPG, JPEG, SVG
Show logo	Toggle logo visibility	Checkbox
Header color	Background color of header	Color picker
Interface theme	Visual theme of the map	Light, Dark, Professional, Colorful

8.3. Layers Tab

Element	Description	Options
Layer selection	Choose layers to export	Checkboxes
Select all	Select all layers	Button
Deselect all	Deselect all layers	Button
Invert	Invert selection	Button
Popup configuration	Select fields for popups	Checkboxes per layer

8.4. Advanced Tab

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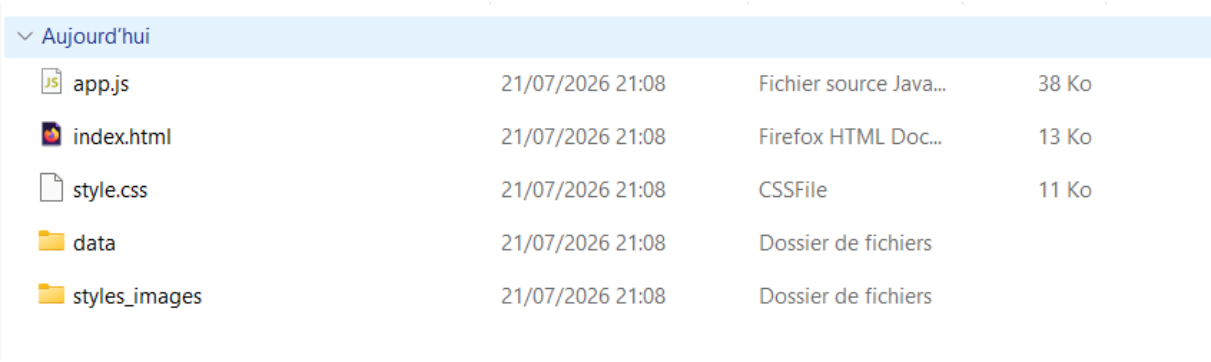
Element	Description	Options
Simplify geometries	Reduce geometry complexity	Checkbox
Compress JSON data	Compress data for faster loading	Checkbox
Round coordinates	Reduce coordinate precision	Checkbox
Export as ZIP file	Package output as ZIP	Checkbox
Open automatically in browser	Auto-open after export	Checkbox

9. Advanced Customization of Generated Code

You can fine-tune the generated map by directly modifying the HTML and JavaScript files. This flexibility allows you to go beyond the plugin's interface options.

Open the export folder. The main file is `index.html`. Open it with a code editor (like Visual Studio Code, Notepad++, or even Notepad).



9.1. Modify the Map Size (Canvas)

Find the CSS block defining the `#map` ID. This is where the map size is defined.

CSS

```
#map {
    width: 100%; /* Percentage width for better responsiveness */
    height: 600px; /* Height in pixels */
    /* or height: 80vh; to use viewport height */
}
```

9.2. Remove a Layer

If your map contains an unnecessary layer, you must remove it in two places.

1. **In the layer definition:** Comment or delete the code block from `map.createPane(...)` to `map.addLayer(...)`.
2. **In the layer control:** Find the line starting with `L.control.layers(baseMaps, {...})`. Remove the entry corresponding to your layer.

9.3. Change a Layer Name

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To rename a layer in the legend, simply modify its name in the layer control panel.

javascript

```
L.control.layers(baseMaps,{
    'New Layer Name': layer_my_layer, // Change here
    "Basemap": layer_basemap,
},{collapsed:false}).addTo(map);
```

9.4. Modify Popup Content

Popup content is defined in the JavaScript code. Look for the `bindPopup` or `bindTooltip` functions to customize what appears when users click on features.

javascript

```
layer.bindPopup('<strong>Feature Name:</strong> ' +
feature.properties.name);
```

10. Troubleshooting / FAQ

Q: Why are my labels much simpler than in QGIS?

A: *Not every aspect of QGIS labels (like advanced text effects) can be perfectly translated to the web version. The plugin does its best to reproduce them faithfully, but some styling may be simplified.*

Q: Why is my map taking so long to load?

A: *Using heavy data, especially rasters, can slow down loading. Consider:*

- *Using simpler geometries*
- *Reducing the number of features*
- *Enabling layer filtering*
- *Using the built-in local server for faster loading*

Q: I get an error when exporting?

A: Make sure you are using QGIS 3.16 or higher. Some issues may be related to:

- Raster layers (try exporting without them)
- Project projection settings
- Special characters in layer names

Q: How can I modify the popups?

A: In the plugin interface, before exporting:

1. Go to the Layers tab
2. Select a layer from the list
3. Check or uncheck fields to display in popups

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4. Alternatively, edit the `index.html` file after export

Q: Can I use my own basemap?

A: Yes! In the General tab, check "Custom URL" and enter your own tile layer URL. You can also modify the `index.html` file after export.

Q: The map doesn't display properly in my browser?

A: Try:

- Using a modern browser (Chrome, Firefox, Edge, Safari)
- Disabling browser extensions that might interfere
- Using the built-in local server (enabled by default)

Q: How do I update the map after making changes in QGIS?

A: Simply re-run the export process. Your new styles and symbology will be applied to the generated web map.

Q: What happens if I don't have a logo image?

A: The plugin works fine without a logo. Simply uncheck "Show logo" in the Customization tab.

Q: Is my data sent to external servers?

A: No. All processing is done locally within QGIS. Your data is only exported to your local computer.

11. Acknowledgments

- **QGIS** - The best open-source GIS
- **Leaflet** - The JavaScript mapping library
- **qgis2web** - Source of inspiration

12. Appendix A: Quick Reference Card

Task	Steps
Export a web map	Open plugin → Configure tabs → Click OK
Change basemap	General tab → Select from dropdown or use Custom URL
Add tools	General tab → Check desired tools
Change map theme	Customization tab → Select theme → Re-export
Add a logo	Customization tab → Upload image → Re-export
Modify popups	Layers tab → Select layer → Check fields → Re-export
Select/deselect layers	Layers tab → Use buttons or individual checkboxes
Optimize data	Advanced tab → Check simplification/compression options
Open map after export	Advanced tab → Check "Open automatically in browser"

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Export as ZIP	Advanced tab → Check "Export as ZIP file"

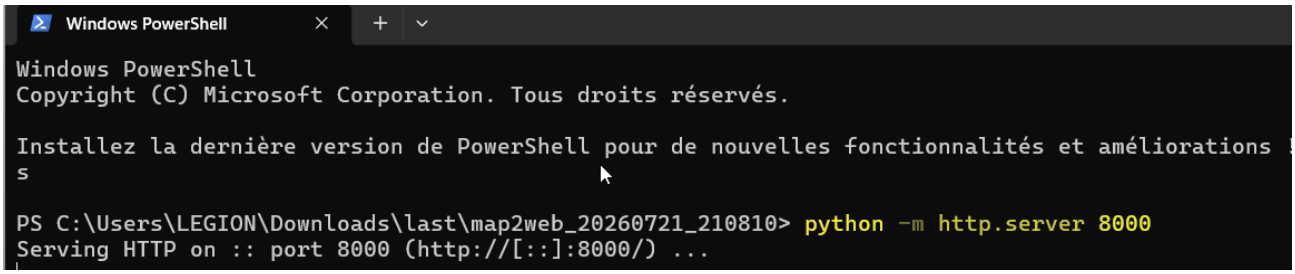
13. Appendix B: Interactive Tools Reference

Tool	Function	When to Use
Address search	Search for places by name or address	For navigation and location finding
GPS location	Show user's current location	For field applications and location-based services
Measure	Measure distances and areas	For spatial analysis and planning
Print	Print the current map view	For reports and documentation
Fullscreen	Expand map to full screen	For immersive viewing
MiniMap	Show small overview map	For orientation in large maps
Scale bar	Display map scale	For spatial context
Cursor position	Show mouse coordinates	For precision work and data collection
Attribution	Display map credits	For license compliance
Advanced filter	Filter data by attributes	For focused data exploration

14. Appendix C: Theme Reference

Theme	Description	Best For
Light	Clean, minimal interface	General use, bright environments
Dark	Dark background, high contrast	Low-light environments, presentations
Professional	Business-oriented styling	Corporate use, reports
Colorful	Vibrant, engaging colors	Public-facing maps, marketing

Note: After closing and reopening your laptop, open Command Prompt (CMD), navigate to your exported directory, and run « ***python -m http.server 8000*** » to restart the local server. You can then access the app in your browser at **http://localhost:8000**



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